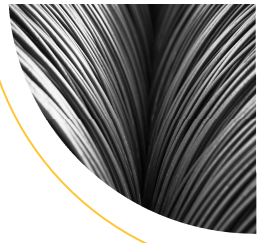
CHARTER STEEL

Charter Manufacturing Overview



1

1

2

A Brief History

- **The Start**
  - Roots date back to 1918 when Alfred Mellowes – the son of English Immigrants receives a patent for a "cooling apparatus"
  - The initial brand – Guardian Frigerator is sold and becomes "Frigidaire" in the early 1920s.
  - Alfred partners with Briggs and Stratton on a new design; however, business conditions deteriorate in the early 1920's and the Briggs and Stratton refrigerator is shelved

- **The Metals Industry**
  - In around 1922, Alfred is connected to an engineer that developed a new method for making lock washers
  - That was the first step into the metals and forming business, forging a path that has been followed since

3

3

A History of Growth

1936 Charter Wire

1948 Milwaukee Wire Products (Charter Automotive)

1978 Charter Steel

2012 Charter Durabar

2021 Charter Aarrowcast

2024 Niles Iron & Metal

Image: Charter Steel 1981

4

4

CHARTER STEEL

4th Generation Family Company

Alfred Mellowes

Charles Mellowes

John A Mellowes

John W Mellowes

5

5

CHARTER STEEL

Culture

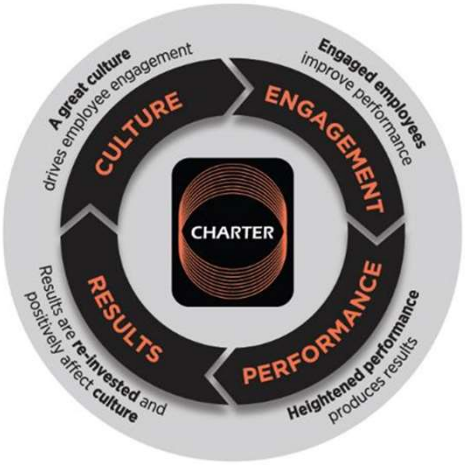
Growth Company who invests and innovates

Non-Union Workforce

Profit Sharing Plan for all employees (since 1958)

No time clocks for any employee (since 1972)

$1.15 B in facilities, improvements and incentives over 10 years



6

6

Charter Portfolio Today

CHARTER MANUFACTURING

Established 1936 • Mequon, Wisconsin • Privately Held – 4th Generation Family-Owned • ~2,300 Employees

Iron Platform

Specialty Iron Bar
Established 1946

DB & DMS HQ
Woodstock, IL, USA

DMS-PA LLC
Salisbury, NC, USA

DMS-PA LLC
York, PA, USA

DMS-PA LLC
Fort Worth, TX, USA

Gray & Ductile Iron Castings
Established 1977

Shawano
Wisconsin, USA

Steel Platform

Carbon & Alloy SBQ Rod, Wire, Bar
Established 1978

Saukville
Wisconsin, USA

Cleveland
Ohio, USA

Fostoria
Ohio, USA

Shaping Platform

Engineered Steel Shaped Wire
Established 1936

Milwaukee
Wisconsin, USA

Tier I & II Automotive Supplier
Established 1948

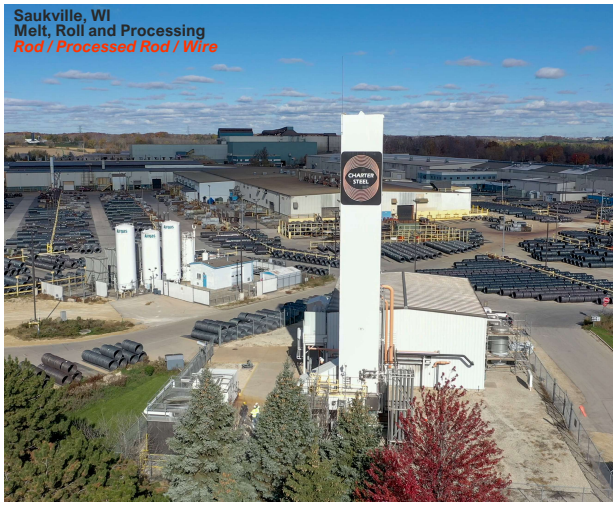
Milwaukee
Wisconsin, USA

7

7

7

Charter Steel - 2023



8

8

Charter Steel Facts

- Carbon & Alloy SBQ Rod, Wire and Bar Producer
- EAF Melt and Roll facilities in Saukville, WI and Cleveland, OH
- Distribution and Processing facilities in Saukville, WI and Fostoria, OH
  - We are the largest coil processor in North America
- 1.3 Million Tons of Steelmaking Capacity
  - North America's leading producer of Cold Heading Quality Steels
- 525,000 Tons of Coil Processing Capacity
- Non-Destructive Testing of SBQ

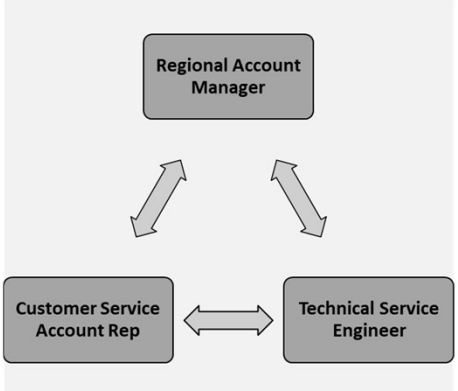
9

9

Service Model

Every Customer has a dedicated team to support their individual needs.

- **RAM** – Account management, pricing, forecasting
- **CSAR** – Ordering, Customer Service, logistical
- **TSE** – Technical questions, material or process troubleshooting



10

10

Qualities and Applications

Sucker Rod | Industrial | High Carbon | Weld Wire | Forging | Cold Heading | Suspension / Spring | Bearing | Aircraft

20% of Charter Steel Business - Primarily Construction

80% of Charter Steel Business - Primarily Mobile

High Carbon Examples

- Bridge Cables
- Wire Rope
- Furniture and Bed Springs

Cold Heading Examples

- Critical Fasteners and Components
- Auto, Construction, Heavy Truck etc.

Suspension Spring Examples

- Automotive Suspension Springs
- Stabilizer, Sway and Track Bars

11

11

Capabilities

- **Green Coil:**
  - Diameters from 7/32” to 1-9/16”
  - Available in Increments of 1/64”
  - 4,400 lb. to 5,600 lb. coils
  - Processing Available
    - Clean/Coat, Draw, Anneal

- **SBQ (Black Bar):**
  - Diameters from 3/4” to 3-1/4”
  - Lengths from 12ft to 50ft
  - 4,000 – 10,000 lb. bundles
  - On-Site Non-Destructive Testing Capabilities
    - Straighten, Ultrasonic Testing, MFLT
      - Including chamfer and bundling

12

12

CHARTER STEEL

Sustainability

Charter Steel been making environmental investments for decades

- Leverage EAF vs. BOF steelmaking – results in **75% fewer** CO2 emissions
- Use EAF to produce steel out of **~90+% recycled** material
  - 2023 was closer to 95% recycled content
- Our steel can be recycled, creating a circular economy
- Largest **single site recycler** in Wisconsin
- ISO 50001 Certified (energy management)
  - First steel mill in North America to receive this certification

13

13

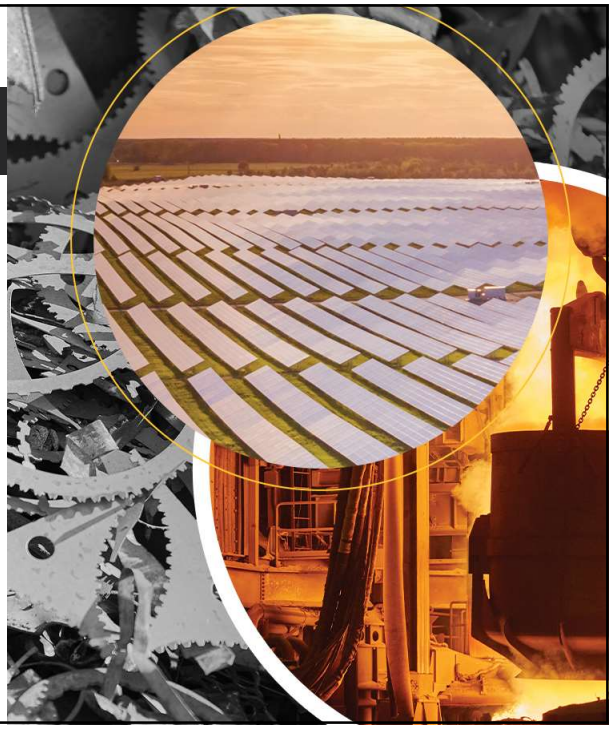
CHARTER STEEL

Carbon Stats

Goal = 25% reduction in Scope 1 and 2 by 2030

2023 performance

- Billet: 19.9% reduction @ 0.38 Metric Tonnes CO2e per Short Ton of Steel
- Green Coil: 17.3% reduction @ 0.51 Metric Tonnes CO2e per Short Ton of Steel
- Processed Coil: 14.7% reduction @ 0.66 Metric Tonnes CO2e per Short Ton of Steel



14

CHARTER STEEL

Notable Projects

Paving the way to a 25% reduction

- **Scrap Preheat (Winner of US Department of Energy Award)**
  - Scrap is preheated prior to charge vs. being charged at ambient temperature
  - Reduced electricity consumption, ambient dust, preserved anode life and more
- **Charter Steel Solar Field**
  - Projected go live date May 31, 2024
  - Will provide 27 million kWh of electricity (equivalent of 3700 homes per year powered)
- **Charter Steel Energy Teams**
  - Seven active teams at each plant reviewing data and identifying opportunities (big and small) to reduce energy consumption.

15

16

CHARTER STEEL

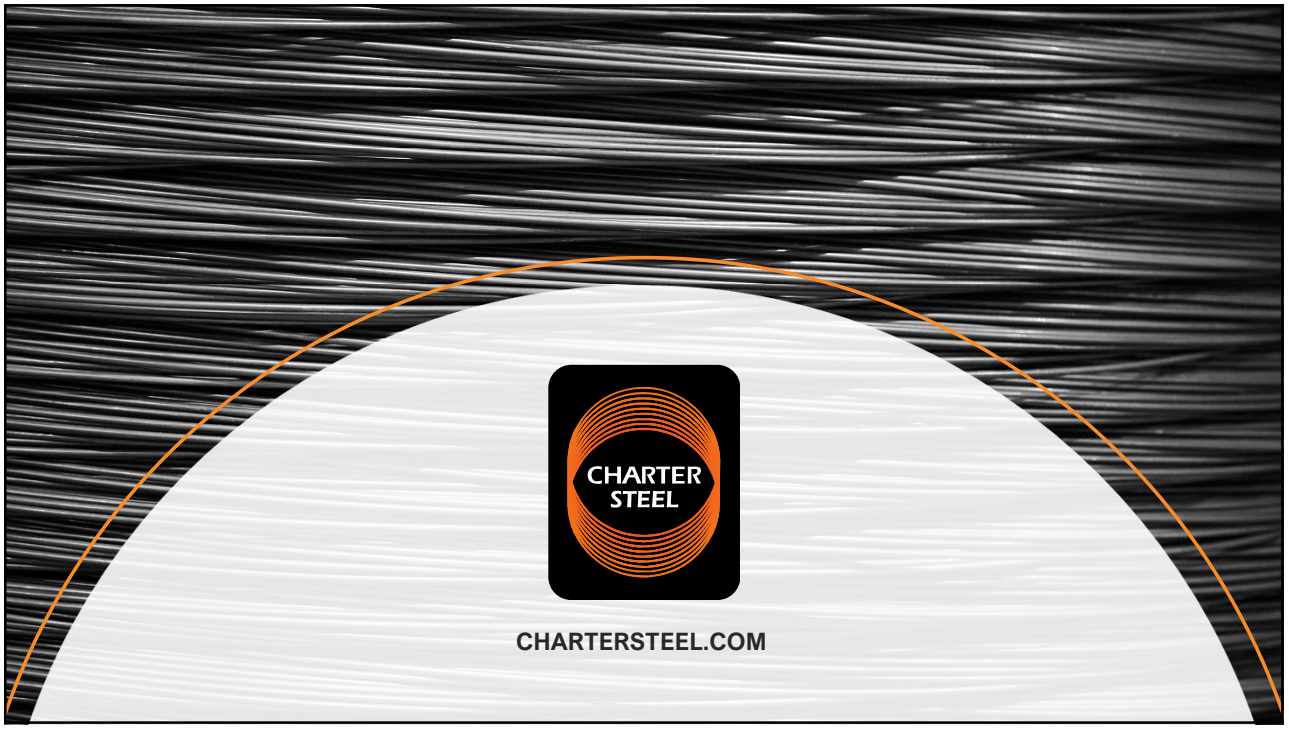
Energy Team Overview

Managing Energy Usage

- Charter established an energy department in **2016** to manage energy usage and environmental impacts by optimizing energy use on site
- Two routes we take to manage energy costs:
  - Working with local utilities, local energy groups, and local policy makers to manage incoming electricity.
  - Utilizing our energy management system to work on improving energy efficiencies and reducing energy consumption.
- Physical adjustments made:
  - Transitioned to LED lighting at all sites, installed variable frequency drives, or VFDs, where possible to decrease power consumption

17

17



18

Cold Heading Quality Steels

Critical Fasteners and Components for Automotive, Construction, Heavy Truck, Mining and Agricultural Equipment

19

Spring Round Quality Steels

Automotive Suspension Springs

Stabilizer, Sway and Track Bars

Truck Brake Springs

20

Cold Finishing Quality Steels

Screw Machined Parts for Automotive, Construction and Agricultural Equipment

Hand Tools

Appli

Copyright 2024 - Charter Steel 21

21

High Carbon Quality Steels

Bridge Cables

Wire Rope

Pre-Stressed Concrete Reinforcement

Furniture and Bed Springs

Copyright 2024 - Charter Steel 22

22

Industrial Quality Steels

Wire Racks for Appliances

Wire Mesh for Concrete

Threaded Rod

Chain

Wire Baskets and Shelving

ops

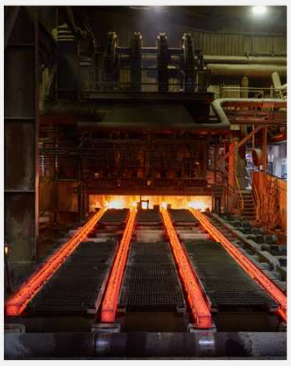
23

Melt Shop Process

Electric Arc Furnace
Initial Melt Composition

Ladle Refining Furnace
Produce Final Chemistry

Vacuum Oxygen Degasser
Remove Unwanted Gasses



Continuous Billet Caster
Create Final Billets

EAF shops produce a Carbon Footprint that is 75% less than a BOF shops

24

Rolling Mill Process

- **Square Billets are reheated and then converted to round bar through a series of rolling stands.**

- **Saukville Diameter**
  - 7/32" - 1-9/16" (Coil)

- **Cleveland Diameter**
  - 7/32" - 1-9/16" (Coil)
  - 3/4" – 3-1/4" (SBQ)

25

Cleaning and Coating
- Zinc phosphate
- Lime
- Reactive Lube
- Polymer

Annealing
- Box and Continuous
- Sphero, LP Anneal, Regular Anneal

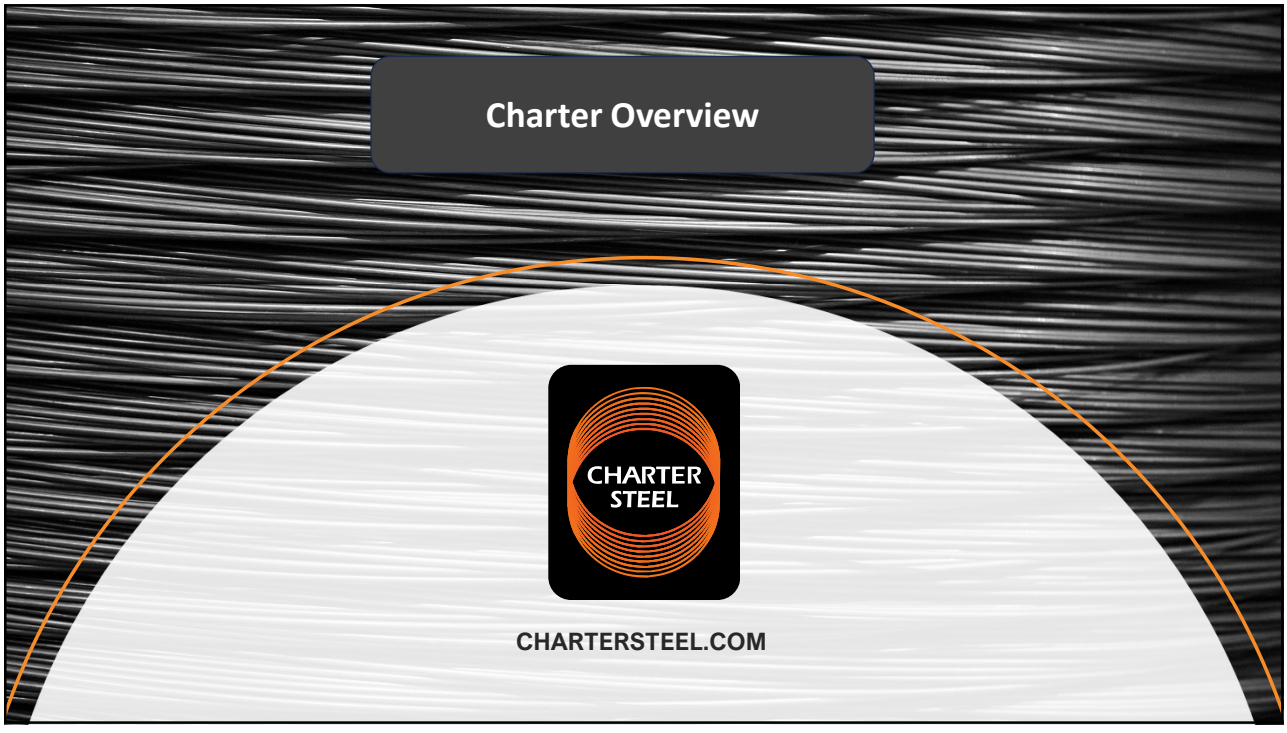
Wire Drawing

26

26


Certificate of Registration
Charter Steel - Saukville
IATF 16949:2016
NSF International Strategic Registrations, Ltd.
Certificate of Registration
CHARTER STEEL - A DIVISION OF CHARTER MANUFACTURING CO., INC.
ISO 14001:1996
Certificate of Registration
Charter Steel
OHSAS 18001:2007
CERTIFICATE
Charter Steel
1658 Cold Springs Rd
Saukville, WI 53080
United States
ISO 50001:2011
Copyright 2024 - Charter Steel
27

27


Charter Overview
CHARTER STEEL
CHARTERSTEEL.COM

28